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COMPLETE SPECIFICATION

Process for preparation of an Edible Composition from
Honey and Milk

I, IAN MELVILLE CLARK, M.A., a Fellow of the Chartered Institute of Patent Agents, of A. M. and Wm. Clark, of Quality House, 5—9, Quality Court, Chancery Lane, London, W.C.2, a British Subject, do hereby declare the invention (a communication from Margarete Fieguth, a German citizen, of Bundesallee 137, Berlin-Friedenau, Germany), for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention is concerned with the preparation of a dietary and medicinal honey composition, for use in a wide range of human diseases, in a dry, non-sticky, pulverulent form, more convenient for clean dispensation, quick dissolution, and ready consumption than official honey, *mel depuratum*, or mixtures of honey with substances such as cod liver oil, extracts from medicinal plants, fennel squill, guaiacum or acetic acid. More especially the invention aims at providing a pulverulent bees' honey and milk composition, wherein the health-giving ingredients of the honey are preserved, including inhibitors of bacterial growth, the bacteria paralysing micro-organisms discovered in 1937 and stated to be sensitive to light and heat.

The invention comprises a dietary and medicinal honey and milk composition, prepared by mixing thinly liquefied honey in lukewarm condition (not over 40° C.) with a larger proportion of dry milk powder, pre-heated to the temperature of the honey, dehydrating and solidifying the semi-dry mixture by air and heat (not over 45° C.), slowly cooling and regrinding it to a powder. In the term "dry milk powder" I include both whole

Further, as will be seen, I may also use fresh milk.

After fruitless experiments to dehydrate and solidify honey by cooking it, the following specific thermal treatment was accompanied by success. The honey under treatment was slowly heated in a water jacketed vessel to a temperature not over 40° C. at which it was thinly liquid, and evaporated milk powder, finely ground, was also heated to the temperature of the liquid honey and placed into the mixing trough, into which the liquid honey was sprinkled and mixed in a proportion of 20 to 40% by weight of the milk powder. On removing the mixture therefrom it was spread out in thin layers on fine mesh wire gauze trays, and subjected to the drying action of mild heat, not exceeding 45° C., and of dry air blown there-through. The resultant lumpy product with a final moisture content of about 5% was allowed to cool slowly in one or two nights to normal temperature, and was finally comminuted into a granular pulverulent honey-milk composition and packed into airtight containers.

The best results were obtained with various choice bees' honeys, rich in aromatic and health-giving ingredients, mixed together, and heated in a water-jacketed vessel, and with dry whole milk powder or skimmed milk powder spread out in thin layers on perforated trays and heated in chambers electrically under thermostatic control.

It has also been found that specific varieties of sugar, akin to honey, such as glucose, or lactose, or maltose, can be added to advantage to the milk powder in the mixing trough, thereby enhancing the honey's therapeutic effect.

For instance, with 25% bees' honey, 10% glucose and 65% whole milk powder mixed and thermally and specifically 90

treated according to this invention a medicinal food product of great health-restoring power is obtained. Administered as a remedy in desperate cases of illness, including chronic intestinal disorders, complete loss of appetite, or in cardiac crises with impending danger to life, it has proved to be of outstanding value.

I assume that the therapeutic properties of the honey-milk composition made according to this invention are due to its rich content of invigorating and health-restoring inhibitors of bacterial growth referred to above, which are kept active during mild treatment, and strengthened in the presence of a compatible element, i.e., the milk powder; whereas they were destroyed and lost by excessive heating in former honey purifying and dehydrating methods.

With 20% bees' honey, 10% lactose and 70% whole milk powder mixed and treated according to this invention the resultant pulverulent product, dissolved in 7 to 8 parts of water, is a reliable infants' food.

When prepared with 25% bees' honey, 15% maltose and 60% skimmed milk powder the resultant honey-milk composition dissolved in water is an invigorating drink for convalescents, ageing and hard-working people.

In the preparation of a dietary and medicinal honey-milk composition, variations in the temperatures employed may be made. Bees' honey may be dissolved in fresh milk heated to not over 40° C. in a proportion not exceeding 4%, after which the lukewarm solution is dehydrated preferably under reduced atmospheric pres-

sure and at temperatures not exceeding 80° C. e.g. by passing it over heated revolving drums or in a spraying process of distribution over heated rotary discs, and is eventually comminuted. It appears that the thermolabile micro-organisms of the honey will remain alive and unharmed in their rapid passage over the heated drums or discs.

The resultant pulverulent honey-milk composition may be compressed or briquetted into tablets, pastilles, or other convenient forms for easy consumption.

What I claim is:—

1. A dietary and medicinal honey and milk composition, prepared by mixing thinly liquefied honey in lukewarm condition (not over 40° C.) with a larger proportion of dry milk powder, pre-heated to the temperature of the honey, dehydrating and solidifying the semi-dry mixture by air and heat (not over 45° C.), slowly cooling and regrinding it to a powder.

2. A honey-milk composition, prepared according to Claim 1, wherein sugars akin to honey, such as glucose, lactose, or maltose, are added to the milk powder.

3. A dietary and medicinal honey and milk composition, prepared by dissolving honey in lukewarm milk, dehydrating the lukewarm solution under reduced atmospheric pressure at temperatures not exceeding 80° C., by passing it over heated rotary drums, or over rotary discs in a spraying process, and regrinding the solidified product.

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